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The National Information Infrastructure: Policymaking and Policymakers

by
Fred H. Cate

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INTRODUCTION

Communications policymaking in the United States is complex and unfocused. It is described by its acolytes as "an often paralyzing task,"¹ "an endless policy loop,"² a "tangled web,"³ and a "regulatory round robin."⁴

Yet the extension from communications to *information* policymaking poses even greater challenges. The creation, manipulation, storage, transmission, and use of information constitute both a vital component of the U.S. economy and an essential underpinning of other critical sectors. These activities pose a wide range of serious issues that may only be exceeded in number and diversity by the policymakers responsible for dealing with them.

This article examines three intertwined features of infor-

mation policymaking—the vital role played by information in modern society, the diversity of issues that information products and services present, and the proliferation of information-related policymakers—and the extent to which the Administration has responded by narrowing and centralizing its policymaking inquiry. The article concludes by rec-

ommending a broader, more comprehensive approach to information policymaking, one that takes its direction less from the White House and more from the issues and experts involved in the policymaking process. As Henry Geller, a former General Counsel of the Federal Communications Commission (FCC) and the first Administrator of the National Telecommunications and Information Administration (NTIA),⁵ has written: "The Information Age, with its global competition, demands that we put our policy house in order."⁶

THE ROLE OF INFORMATION

The "information superhighway" is all the rage today.

J.D., Stanford Law School; A.B., Stanford University. Associate Professor of Law and Faculty Advisor to the Federal Communications Law Journal, Indiana University School of Law-Bloomington; Senior Fellow, The Annenberg Washington Program in Communications Policy Studies.

According to the Clinton Administration's *Agenda for Action*, the potential benefits of the National Information Infrastructure (NII) are "immense":

The NII will enable U.S. firms to compete and win in the global economy, generating good jobs for the American people and economic growth for the nation. As importantly, the NII promises to transform the lives of the American people. It can ameliorate the constraints of geography and economic status, and give all Americans a fair opportunity to go as far as their talents and ambitions will take them.⁷

Vice President Al Gore and Secretary of Commerce Ron Brown have canvassed the country claiming the NII will "bring an era of unprecedented prosperity to America."⁸ "In the future," according to one White House briefing paper, "the NII will enable all Americans to get the information they need, when they need it and where they need it, for an affordable price."⁹

Whether an advanced information infrastructure is the key to the Promised Land remains to be seen. But information is nevertheless a key component of the U.S. (as well as the global) economy. Although figures vary, information services and products are either the first or second largest sector of the U.S. economy, accounting for between 10% and 12% of Gross Domestic Product.¹⁰ Taken together, telephone companies, information service providers, communications equipment manufacturers, and computer hardware and software companies account for more than 4.5 million U.S. jobs.¹¹ The Commerce Department predicted in November 1993 that information sector revenues that year would reach \$610 billion, up 8% from 1992.¹²

Even these figures do not represent the real importance of information and, therefore, the real significance of the information infrastructure in the United States. "Information," writes Anne Branscomb, legal scholar-in-residence at Harvard University's Program on Information Resources Policy, "is the lifeblood that sustains political, social, and business decisions."¹³ Non-communications businesses rely as much on information services and products as do telephone companies and computer manufacturers. During the 1980s, U.S. business alone invested \$1 trillion in information technology.¹⁴ Between one-half and two-thirds of the U.S. workforce is in information-based jobs.¹⁵

Consider, for example, the growing market for financial services—banking, securities and commodities trading, letters of credit, currency conversions, and loan guarantees. Approximately 5% of U.S. services exports are financial services;¹⁶ as of mid-1992, the United States held 66.3% of

the world market for financial services.¹⁷ What is a global financial system but a "network of information"?¹⁸ As a result, banks in the United States and elsewhere are investing heavily in information technologies.¹⁹

Information is equally significant for the activities of government. According to the Clinton Administration's *National Performance Review*, the "[f]ederal government lacks appropriate access to most effective, cost-efficient, information technology products and services."²⁰ These services, the report predicts, can overcome "the barriers of time and distance to perform the business of government and give people public information when and where they want [it]."²¹ The importance of information is not limited to telephone and computer companies; it is indeed the lifeblood of modern society.

Whether an advanced information infrastructure is the key to the Promised Land remains to be seen. But information is a key component of the U.S. and global economies

INFORMATION POLICYMAKERS AND POLICY MAKING

Policy Objectives

During the 1992 presidential campaign, Bill Clinton and Al Gore pledged to make deployment of a "national information network" a priority of their Administration. The impetus for this commitment apparently came from Gore, who, as a Member of the House of Representatives, proposed a "nationwide network of fiber optic 'data highways'" in 1979.²² As a Senator and Chair of the Senate Subcommittee on Science, Technology and Space, Gore introduced proposals for a National Research and Education Network as the "Department of Energy High-Performance Computing Act" (S. 1976) in 1989²³ and the "High-Performance Computing Act" (S. 272) in 1991.²⁴ Gore found a like-minded "fellow traveller" in Bill Clinton. Together, they campaigned on a promise to create a network that would "link every home, business, lab, classroom and library by the year 2015."²⁵

Once in office, the President and Vice President moved quickly. On February 22, 1993, just 28 days after the inauguration, they unveiled a five-part strategy for building the "National Information Infrastructure," described in subsequent releases as consisting of:

(1) thousands of interconnected, interoperable telecommunications networks, (2) computer systems, televisions, fax machines, telephones, and other "information appliances", (3) software, information services, and information databases (e.g. "digital libraries"), and (4) trained people who can build, maintain, and operate these systems.²⁶

The Clinton/Gore strategy, *Technology for America's Economic Growth: A New Direction to Build Economic Strength*, included the following goals:

- (1) Implement the High-Performance Computing and Communications Program, to help develop the basic technology needed for the NII.
- (2) Through the Information Infrastructure Technology and Applications program, work with industry, universities, and federal government labs to develop technologies needed to support NII applications.
- (3) Provide matching grants through the National Telecommunications and Information Administration to assist states, local governments, universities and school systems, hospitals and other health care providers, and other non-profit entities in NII pilot projects.
- (4) Promote dissemination of Federal information through consistent Federal information policies designed to ensure that Federal information is made available at a fair price to as many users as possible while encouraging the growth of the information industry.
- (5) Reform telecommunications policies to afford a consistent, stable regulatory environment necessary to encouraging private sector investment in the NII.²⁷

The Administration has energetically pursued the first four strategies, with little fanfare and with perhaps even less consultation with relevant government agencies. The Administration sought \$1 billion for the High-Performance Computing and Communications Program and an additional \$96 million to focus specifically on Information Infrastructure Technologies and Applications.²⁸ The Administration has requested \$40 million for research by the Department of Energy's National Labs on the Information Infrastructure and \$600 million for the Technology Reinvestment Project, which funds technological development of NII applications in health care, manufacturing, electronic commerce, and education and training.²⁹ NTIA has announced

\$26 million in matching grants to support NII application pilot projects by not-for-profit organizations; the Administration has pledged to seek \$100 million for these grants next year.³⁰

The Office of Management and Budget issued a circular in June 1993 to encourage agencies to increase citizen access to public information.³¹ The *National Performance Review* report, released in September 1993, contains eleven recommendations for the improved use of information technology, including the creation of a Government Information Technology Services Group to develop a "strategic vision" for the federal government's use of information technologies.³² The Administration has launched a series of inquiries into electronic dissemination of government information and the use of networks for intra- and inter-government communications.³³ While it awaits the final outcome of those inquiries, the Administration is making widespread use of electronic bulletin boards (available through Internet, commercial services, and direct telephone links) to disseminate speeches, press briefings, executive orders, and key Administration documents. As of February 10, 1994, the Administration had published electronically more than 1600 documents and had processed more than 220,000 electronic requests for information since September 1, 1993.³⁴ The FY1995 budget includes \$18 million for a new system to electronically distribute government information.³⁵

The fifth strategy—reforming telecommunications policy—is taking longer to achieve and involves the Clinton Administration's most visible information-related activities. The Administration released its *Agenda for Action* on September 15, 1993. Although ostensibly the product of an Information Infrastructure Task Force, the *Agenda for Action* was a White House initiative, led by Vice President Gore and Secretary Brown. The *Agenda for Action* sets forth the Administration's vision for the NII. While stressing that the private sector will "predominate" in developing, deploying and paying for the nation's information infrastructure, the *Agenda for Action* notes that "the government has an essential role to play."³⁶ The *Agenda for Action* identifies nine "principles and goals" to guide the government's NII policies:

- (1) Promote private sector investment
- (2) Extend the "universal service" concept to ensure that information resources are available to all at affordable prices
- (3) Act as a catalyst to promote technological innovation and new applications . . . [through] important government research programs and grants
- (4) Promote seamless, interactive, user-driven op-

eration of the NII . . . [to] ensure that users can transfer information across networks easily and efficiently.

(5) Ensure information security and network reliability

(6) Improve management of the radio frequency spectrum

(7) Protect intellectual property rights

(8) Coordinate with other levels of government and

with other nations . . . to avoid unnecessary obstacles and to prevent unfair policies that handicap U.S. industry.

(9) Provide access to government information and improve government procurement.³⁷

By the time of the Vice President's remarks at the National Press Club on December 21, 1993—the first public statement on the NII by the Vice President since announce-

Information Infrastructure Task Force

(chaired by Ronald H. Brown, Secretary of Commerce)

APPLICATIONS AND TECHNOLOGY COMMITTEE

Arati Prabhakar, Director, National Institute of Standards and Technology, Department of Commerce

- Government Information Technology Services Working Group •
James Flyzik, Director, Office of Telecommunications Management, Department of the Treasury
- Technology Policy Working Group •
Duane Adams, Deputy Director, Advanced Research Projects Agency
- Health Information and Applications Working Group •
John Silva, Program Manager, Advanced Research Projects Agency

TELECOMMUNICATIONS POLICY COMMITTEE

Larry Irving, Assistant Secretary of Commerce for Communication and Information and NTIA Administrator

- Universal Service Working Group •
Larry Irving
- Reliability and Vulnerability Working Group •
David Signori, Associate Director, Defense Information Systems Agency
- International Telecommunications Policy Working Group •
Carol Darr, Deputy General Counsel, Department of Commerce
- Legislative Drafting Task Force •
Larry Irving

INFORMATION POLICY COMMITTEE

Sally Katzen, Administrator, Office of Information and Regulatory Affairs, OMB

- Intellectual Property Rights Working Group •
Bruce Lehman, Assistant Secretary of Commerce for Patents and Trademarks
- Privacy Working Group •
Jerry Gates, Program and Policy Development Office, Census Bureau
- Government Information Working Group •
Bruce McConnell, Chief of OMB's Information Policy Branch, Office of Information and Regulatory Affairs

Figure 1

ment of the *Agenda for Action* in September—the Administration had narrowed these essential principles guiding NII policy to five:

First, encourage private investment . . .

Second, promote and protect competition . . . [and] prevent unfair cross-subsidies and act to avoid information bottlenecks that would limit consumer choice, or limit the ability of new information providers to reach their customers.

Third, provide open access to the network . . . We need to ensure the NII, just like the PC, is open and accessible to everyone with a good idea who has a product they want to sell . . .

Fourth, we want to avoid creating a society of information “haves” and “have nots.” . . . The less fortunate sectors of the population must have access to a minimum level of information services through subsidies or other forms of a public interest tithe.

Fifth and finally: we want to encourage flexibility. . . . Technology is advancing so rapidly, the structure of the industry is changing so quickly, that we must have policies broad enough to accommodate change.³⁸

As noted by Secretary Brown,³⁹ three of the Vice President’s five goals address one issue: managing competition. Thus, the *Agenda for Action*’s original list of nine objectives is now reduced to three over-arching goals for the Clinton Administration’s information policymaking: manage competition between and among competing information product and service providers; assure regulatory flexibility; and provide for universal service—however defined—for all Americans. Virtually all Administration speeches and testimony concerning the NII have repeated these goals.⁴⁰

Such consistency is noteworthy in itself. On the one hand, the broad variety of information policymakers singing in harmony reflects the Administration’s success in imposing some order on the policymaking process. On the other hand, such diverse policymakers all singing with one voice, in unison with the Vice President, raises concerns about the likely effectiveness of that process in identifying and resolving critical and difficult information policy issues. In addition, the government’s narrowed focus has eclipsed other important issues originally identified in the *Agenda for Action*, such as the application of intellectual property rights to information networks. Both the centralization of the policymaking process and the exclusion of relevant issues from the Administration’s agenda are discussed in greater detail below.

INFORMATION POLICYMAKERS

Executive Branch and Independent Agencies

Given the importance of information, it is not surprising that it falls within the purview of multiple government agencies. What is surprising is the sheer number of government entities with jurisdiction over some facet of information creation, storage, transmission, manipulation, and use. No single agency is vested with primary jurisdiction or responsibility for coordinating information policymaking. Kimberly Patch, writing in *PC Week* magazine, observed that the development of the NII is being guided by a “virtual alphabet soup of government agencies.”⁴¹ Her reference to “more than a dozen government entities,” however, underestimates the number of regulators involved. Admittedly, the prospect of the NII has rapidly organized the efforts of at least some of these entities, particularly the many executive branch and independent agencies involved. It has helped to coordinate their often disparate, even contradictory, policies, while at the same time bringing them more into line with the Administration’s focus on managing competition in the information marketplace, assuring regulatory flexibility, and guaranteeing universal service.

What is surprising is the sheer number of government entities with jurisdiction over some facet of information creation, storage, transmission, manipulation, and use.

Much of the leadership on NII-related issues comes from the Department of Commerce. Secretary Brown chairs the Information Infrastructure Task Force, created by the Clinton Administration on September 15, 1993, to guide development of the NII. (See Figure 1.) Larry Irving, Assistant Secretary of Commerce for Communication and Information and NTIA Administrator, chairs the Task Force’s Telecommunications Policy Committee and its Universal Service Working Group and Legislative Drafting Task Force. NTIA performs a number of important functions regarding communications and information. The agency serves as the President’s principal advisor on telecommunications policies. It also coordinates telecommunications activities and policies within the Administration, conducts studies and makes recommendations on a wide range of telecommunications and information technology issues,⁴² and funds research into telecommunications applications.

Further, it coordinates federal government use of the broadcast spectrum; participates in representing the Administration on communication issues before Congress, state regulators, and the FCC; and develops policies and programs regarding the regulation of domestic telecommunications industries, and the representation and promotion of U.S. telecommunications industries and interests in multinational conferences and negotiations. The bulk of NII-related executive actions falls within the purview of the NII.

Department of Commerce officials fill other key NII posts. Carol Darr, Deputy General Counsel of the Department of Commerce, chairs the International Telecommunications Policy Working Group. Arati Prabhakar, Director of the National Institute of Standards and Technology in the Department of Commerce, chairs the Applications and Technology Committee. Bruce Lehman, Assistant Secretary of Commerce for Patents and Trademarks, chairs the Intellectual Property Working Group. Jerry Gates, from the Department of Commerce Census Bureau, chairs the Privacy Working Group. (See Figure 1.) The Department of Commerce also serves as Secretariat to the National Information Infrastructure Advisory Council, a 37-member group advising the Task Force. (See Figure 2.) Also represented among the NII Task Force leadership are the Office of Management and Budget, Department of the Treasury, Advanced Research Projects Agency, and the Department of Health and Human Services.

Notably absent from the list of NII Task Force leaders is anyone from the FCC, the independent regulatory agency created by the Communications Act of 1934 and responsible for regulating all interstate and foreign communication by wire, radio, television, satellite, and cable.⁴³ This omission may be due in part to the fact that, as an independent agency, the Commission is not part of the Executive Branch. When the NII Task Force was formed in September 1993, the Senate had not yet confirmed Commission Chairman Reed Hundt. It is nonetheless surprising that no other Commissioner or senior FCC staff member with primary communications policymaking responsibility was given a leadership role on the Task Force.

The FCC has extensive, although not always successful, experience promoting and regulating competition among telecommunications industries and assuring universal service in both telephone and over-the-air television service—the points of the Administration's current NII initiative. It is also the only federal agency with statutory jurisdiction over those responsibilities.⁴⁴ Although Chairman Hundt has close ties to the Vice President and although they appear to share common ground on many information-related issues, the absence of the FCC from the NII Task Force leadership

may prove especially troublesome when, and if, it comes time to implement Task Force recommendations.

The FCC, however, does participate in deliberations of the Task Force, along with many other federal agencies, including the Departments of Agriculture, Education, Energy, Housing and Urban Development, Interior, Justice, State, and Veterans Affairs, the Central Intelligence Agency, Environmental Protection Agency, Federal Trade Commission, General Services Administration, National Economic Council, National Science Foundation, White House Office of Science and Technology Policy, and the Vice President himself. The General Accounting Office also plays a signif-

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icant role, in large part through its reports and studies of information technologies.⁴⁵

Other Executive Branch and independent agencies, while unrepresented on the NII Task Force, exercise substantial responsibility for information policy. The Antitrust Division of the Department of Justice advises the U.S. District Court overseeing the Modified Final Judgment⁴⁶—which broke up AT&T's telephone-service monopoly—regarding applications for waivers from the decree's restrictions on AT&T and local telephone-service providers. The Antitrust Division also develops competition policy, monitors compliance, and enforces antitrust laws. The Copyright Office in the Library of Congress and, as noted, the Assistant Secretary of Commerce for Patents and Trademarks, respond to the intellectual property challenges presented by digital information and enforce existing intellectual property laws.

The U.S. Trade Representative oversees international trade in information services and products and its impact on U.S. foreign relations. Information is inherently global and of such economic importance that it frequently is at the heart of international trade disputes. The United States has applied a variety of trade statutes—including the Omnibus Trade and Competition Act of 1988,⁴⁷ the Telecommunications Trade Act of 1988,⁴⁸ the Export Administration Act of 1979,⁴⁹ and the International Security Assistance and Arms

Export Control Act of 1976⁵⁰—to information services and products. U.S. Trade Representative Mickey Kantor has threatened action against the European Community⁵¹ and Japan⁵² for alleged unfair trading practices related to information products. Other officials involved in U.S. international information trade policy include the U.S. Coordinator for International Communications and Information Policy in the Department of State, who is aided by an industry Advisory Committee on International Communications and Information Policy, and the International Trade Administra-

tion in the Department of Commerce.

Other Federal and State Policymakers

Congress affects information policymaking through a number of committees and advisory bodies. In addition to the traditional oversight exercised through appropriations and Senate confirmation proceedings, Congress has created a wide range of specialized committees and subcommittees dealing with telecommunications, intellectual property, constitutional (particularly First Amendment) issues, technical

National Information Infrastructure Advisory Council

Delano Lewis

Co-chair, President and CEO, National Public Radio

Edward R. McCracken

Co-chair, President and CEO, Silicon Graphics

Morton Bahr

President, Communications Workers of America

Dr. Toni Carbo Bearman

Dean, School of Library and Info. Sciences, University of Pittsburgh

Marilyn Bergman

President, ASCAP

Bonnie Bracey

Teacher, Ashlawn Elementary School

John F. Cooke

President, The Disney Channel

Esther Dyson

President, EDventure Holdings, Inc.

William C. Ferguson

Chairman & CEO, NYNEX Corp.

Dr. Craig Fields

President & CEO, Microelectronics & Computer Technology Corp.

R. Jack Fishman

President, Lakeway Publishers, Inc.; Editor/Publisher, *Citizen-Tribune*

Lynn Forester

President and CEO, FirstMark Holdings, Inc.

The Hon. Carol Fukunaga

Hawaii State Senator

Jack Golodner

President, Dept. of Professional Employees, AFL-CIO

Eduardo L. Gomez

President and General Manager, KABQ Radio

Haynes G. Griffin

President and CEO, Vanguard Cellular Systems Inc.

LaDonna Harris

President and Founder, Americans for Indian Opportunity

Dr. George H. Heilmeier

President and CEO, Bellcore

Susan Herman

Gen'l Manager, Telecom. Dep't, City of Los Angeles

James Houghton

Chairman and CEO, Corning Inc.

Stanley S. Hubbard

Chairman and CEO, Hubbard Broadcasting

Robert L. Johnson

President, Black Entertainment Television

Dr. Robert E. Kahn

President, Corporation for National Research Initiatives

Deborah Kaplan

Vice President, World Institute on Disability

Mitchell Kapor

Chairman of the Board, Electronic Frontier Foundation

Alex J. Mandl

Executive Vice President, AT&T; CEO, Communications Services Group

Dr. Nathan Myhrvold

Senior Vice President, Advanced Tech., Microsoft Corp.

N.M. (Mac) Norton, Jr.

Wright, Lindsey & Jennings

Vance K. Opperman

President, West Publishing Company

Jane Smith Patterson

Advisor to the Governor of North Carolina

Frances W. Preston

Chairman and CEO, BMI

Bert C. Roberts, Jr.

Chairman and CEO, MCI Communications Corp.

John Sculley

CEO, Sculley Communications, Inc.

Joan H. Smith

Chair, Oregon Public Utility Commission

Al Teller

Executive Vice President, MCA, Inc.; Chair, MCA Music

Laurence Tisch

President and CEO, CBS, Inc.

Jack Valenti

CEO and President, Motion Picture Assoc. of America

Figure 2

standards, government information, competition, and international trade in information products and services. (See Figure 3.) The Congressional Budget Office evaluates the financial impact of proposed information policies and Congress' Office of Technology Assessment issues a wide variety of influential reports on the impact and regulation of information.⁵³

Although often overlooked, federal—and, to a lesser degree, state—courts play a substantial role in both developing and enforcing U.S. information policy. Not only may interested parties appeal adverse agency decisions, civil litigation between and among interested parties and the federal government has laid much of the de facto regulatory groundwork. For example, the U.S. Supreme Court's decisions in *Sony Corp. of Am. v. Universal City Studios, Inc.*⁵⁴ and *Feist Publications, Inc. v. Rural Tel. Serv. Co.*⁵⁵ did more to establish the parameters of "fair use"⁵⁶ and the copyrightability of databases, respectively, than any administrative pronouncement. Also consider U.S. District Court Judge Harold Greene's role in the case brought by the Department of Justice against AT&T.⁵⁷ Though Judge Greene rendered his decision approving the Modified Final Judgment in 1982, he has retained jurisdiction under the consent decree to control the operations of both AT&T and the Regional Holding Companies (RHCs).⁵⁸ The court's control over U.S. telecommunications is so great that the RHCs have spent more than a decade litigating and lobbying to be freed from restrictions imposed by the decree.⁵⁹ Most recently, the RHCs have applied to Judge Greene to remove the decree altogether.⁶⁰ The breadth of that decree and the substantial discretion given judges to interpret antitrust laws,⁶¹ "probably makes him the single most powerful decisionmaker in U.S. communications policy today."⁶² It is little wonder Judge Greene is often referred to as the "telecom czar."⁶³

State and local governments also regulate telecommunications service providers, particularly local telephone and cable operators. Every state has a regulatory agency (i.e., Public Utility Commission or Public Service Commission) responsible for overseeing intrastate telecommunications.⁶⁴ These state organizations not only exercise considerable power over telephone service within their respective states, they also act collectively through the National Association of Regulatory Utility Commissioners and with the FCC on Federal-State Joint Boards. In addition, many cities exercise some continuing control over cable television through local franchising authority. These cities may act collectively on issues of common concern through the National League of Cities.⁶⁵

In short, information policymaking in the United States involves every cabinet department, more than 100 Execu-

tive Branch and independent agencies, two dozen Congressional committees, subcommittees and expert advisory bodies, the federal courts, 51 state utilities commissions, and literally thousands of local regulators. These figures include none of the international policymaking institutions (e.g., International Telecommunications Union, World Intellectual Property Organization), domestic standard-setting bodies (e.g., American National Standards Institute, Institute of Electrical & Electronics Engineers), public interest groups (e.g., Action for Children's Television, Media Access Project), research centers (e.g., The Annenberg Washington Program in Communications Policy Studies, Columbia Institute for Tele-Information), or the many private industry associations (e.g., Information Industry Association, Telecommunications Industry Association), which all seek to influence the shape of the government's information policy.

The number and variety of information policymakers and organizations seeking to affect the policymaking process have always challenged the ability of government to identify and pursue rational, consistent, and effective information policies. President Johnson's Task Force on Communications Policy recognized 26 years ago the serious problems created by the absence of a single source of "coordinated and comprehensive policy advice" in the more limited realm of communications policymaking.⁶⁶ The breadth of issues and players involved in information policymaking only makes the situation worse. To its credit, the Clinton Administration has recognized the need for greater coordination and, through its NII Task Force, has taken the first steps towards achieving it. Those steps, however, have not come without costs. The Administration's efforts have centralized and politicized the policymaking process and excluded other important issues from the Administration's agenda.

EXPANDING THE SCOPE OF INFORMATION POLICYMAKING

The government has responded to the extraordinary breadth of issues and entities involved in information policymaking by narrowing the scope of inquiry. Senior Administration officials promote only three of the original nine policy principles listed in the *Agenda for Action*: encourage competition between and among information product and service providers; assure regulatory flexibility; and provide for universal service. The Administration has deferred, dismissed, or relegated the remaining principles to the bottom of its policymaking agenda. Given the central role the NII initiative and the Task Force play in coordinating and orienting the information policymaking efforts of many agencies, the focus on three issues to the exclusion of others,

Congressional Committees with Information Policy Oversight

(as of January 23, 1995)

SENATE

Commerce, Science and Transportation

Larry Pressler (R-S.D.), Chair, Ernest F. Hollings (D-S.C.), Ranking Minority Member

- Communications •
Bob Packwood (R-Or.), Ernest F. Hollings (D-S.C.)
- Science, Technology and Space •
Conrad Burns (R-Mont.), not announced

Governmental Affairs

William V. Roth, Jr. (R-Del.), John Glenn (D-Ohio)

- Federal Services, Post Office and Civil Service •
Not announced
- Regulation and Government Information •
Not announced

Judiciary

Orrin G. Hatch (R-Utah), Joseph R. Biden, Jr. (D-Del.)

- Antitrust, Business Rights and Competition •
Strom Thurmond (R-S.C.), Patrick J. Leahy (D-Vt.)
- Constitution, Federalism and Property Rights •
Hank Brown (R-Colo.), Paul Simon (D-Ill.)
- Terrorism, Technology and Government Information •
Arlen Specter (R-Pa.), Herbert Kohl (D-Wis.)

HOUSE OF REPRESENTATIVES

Commerce

Thomas J. Bliley, Jr. (R-Va.), John D. Dingell (D-Mich.)

- Telecommunications and Finance •
Jack Fields (R-Tex.), Edward J. Markey (D-Mass.)

Government Reform and Oversight

William F. Clinger, Jr. (R-Pa.), Cardiss Collins (D-Ill.)

- Government Management, Information and Technology •
Stephen Horn (R-Calif.), Carolyn B. Maloney (D-N.Y.)
- Postal Service •
John M. McHugh (R-N.Y.), Barbara Rose Collins (D-Mich.)

Judiciary

Henry J. Hyde (R-Ill.), John Conyers, Jr. (D-Mich.)

- Constitution •
Charles T. Canady (R-Fla.), Patricia Schroeder (D-Colo.)
- Commercial and Administrative Law •
George W. Gekas (R-Pa.), Jerrold Nadler (D-N.Y.)
- Courts and Intellectual Property •
Carlos J. Moorhead (R-Calif.), John Conyers, Jr. (D-Mich.)

Science, Space and Technology

Robert S. Walker (R-Pa.), George E. Brown, Jr. (D-Calif.)

Figure 3

such as privacy and intellectual property, has a trickle-down effect in and outside the government. As a result, key substantive issues go unresolved. More importantly, the process of information policymaking—the very means through which the substantive issues can be addressed—is thwarted in two ways. First, the Administration's top-down, focused approach unintentionally skews the debate and overestimates the importance of its objectives. Second, this approach obscures the significance of the principles either identified but not addressed publicly, or those omitted altogether.

THE FOCUS ON UNIVERSAL SERVICE

The ramifications of narrowing the policymaking inquiry are nowhere clearer than in the focus on universal service, one of the three objectives the Administration champions. The Administration has widely touted universal service as an essential principle guiding its information policymaking efforts. Universal service is certainly an important goal, but the Administration's singular commitment raises a number of questions, both about universal service itself and its impact on the policymaking process.

Universal service has historically been a minimalist commitment to providing a single, basic service—what is sometimes called Plain Old Telephone Service (POTS). POTS means no advanced information services, no unlimited calling, not even a telephone itself—just a single line connecting each house to the telephone network.⁶⁷ Universal service did not occur overnight. The telephone was developed in the late 1870s and was commercially available for more than 50 years before passage of the Communications Act of 1934,⁶⁸ which required universal service. Had universal service been an obligation from the outset, it would likely have stymied early expansion of the telephone network. Robert W. Lucky, Vice President of Applied Research at Bellcore, asked at a recent NII conference: "Would Internet have ever gotten started if people had presumed from the start that you have to have universal access? It is a great simplification to talk about some of these things as absolutes and not talk about the costs and timetable for those things happening."⁶⁹ Even after more than a century of experience with the telephone, the United States has still achieved only a 94% national penetration rate,⁷⁰ leaving 5.7 million homes without telephone service.⁷¹ Approximately 12% of African American and Hispanic homes have no telephone service; 17%, or one in six families, lack telephone service in the rural south and urban centers of America's largest cities.⁷² More than 20% of African American, Asian American, and Hispanic homes in California have no telephones.⁷³ Even in the nation's capital, 12% of homes have no telephone

service and the number of unserved residents is increasing—more than 6% between 1984 and 1992⁷⁴—as it is in other parts of the country.⁷⁵ The Administration should be cautious about trying to emulate this "success."

Universal service has always been linked to monopolies and extensive government regulation. Prior to its break-up, AT&T could be counted on to provide universal service as part of its monopoly over U.S. telephone service. In fact, it was Theodore Vail, President of AT&T, who first coined the phrase "universal service" in 1910.⁷⁶ After the break-up of AT&T, the Regional Holding Companies, which provide local telephone service on a monopoly basis, continued universal service partly because they were and are heavily regulated near-monopolists. In television, the government's extensive regulation of the industry facilitated its commitment to over-the-air television without direct charge. That commitment has created an intricate system of expensive indirect charges, for example, in prices paid for products advertised on television.

It is far more difficult to define universal service in an environment with as many information services and providers as the NII. Does universal service mean free access or low-cost access to some basic tier of services or to all services? Such distinctions will matter far more in the NII than they do today in telephone service (e.g., whether telephone access comes with call-waiting or without). An NII universal service commitment that does not go beyond the information equivalent of POTS will greatly divide the information "haves" and "have-nots," despite the Administration's populist rhetoric. Yet a more sweeping definition of universal service will impose high costs and threatens to delay widespread deployment of the NII.

Unfortunately, the focus on universal service has thus far obscured, rather than clarified, these issues, and, as a result, the process and players seem to be taking their cues from above. Rather than drawing on their expertise, experience, and ability to collect information from within industries or markets, these policymakers often seem to be imposing on these resources an agenda that originated in the White House or elsewhere among senior officials. The phrase "universal service" has become a mantra. The Vice President says it; the Secretary of Commerce says it; the Assistant Secretary says it; soon, people both in government and out are chanting it, especially when looking for preferment or grants in the NII process.

In addition to distorting the debate about its definition, merits, and costs, the focus on universal service distracts senior Administration officials from other policy goals. Assistant Secretary of Commerce Larry Irving, sounding a familiar Administration theme, recently said: "If 1992 was

the year of the woman, 1994 promises to be the year of universal service."⁷⁷ As important as universal service may be, the Administration's intense focus on it clouds the full range of objectives necessary if the government's information policy is to effectively guide the rapid, cost-effective deployment of a technologically advanced, digital infrastructure offering a wide range of information, communication and entertainment services.

THE MISSING PRINCIPLES

Among the objectives the Administration is overlooking are intellectual property and the First Amendment. Although the *Agenda for Action* stressed the importance of protecting intellectual property rights efficiently and effectively in a digital environment, subsequent Administration actions have largely ignored this goal. The First Amendment has been ignored from the beginning. Whether this is a result of the focus on universal service (and ensuring competition while providing for regulatory flexibility), or the understandable desire to avoid controversial issues, is unclear. What is clear is that the failure to address both intellectual property and free-expression issues not only threatens the success of the NII, but also reflects a failure of the policymaking process itself.

Intellectual Property

According to the *Agenda for Action*:

The broad public interest in promoting the dissemination of information to our citizens must be balanced with the need to ensure the integrity of intellectual property rights and copyrights in information and entertainment products. This protection is crucial if these products—whether in the form of text, images, computer programs, databases, video or sound recordings, or multimedia formats—are to move in commerce using the full capability of the NII.⁷⁸

Protecting the integrity of digital works is likely to require revision of U.S. intellectual property laws, designed for a world in which copying was difficult, economically impractical, and relatively easy to regulate by focusing on the physical manifestation of the work and the actual incident of copying (e.g., photocopying a book). As more information becomes available in digital format, and technologies for digital copying are increasingly widespread and affordable, U.S. intellectual property law will become more and more outmoded.

In addition, U.S. copyright law protects only original

expression. The Supreme Court held in *Feist*⁷⁹ that a compilation, such as a database, can be copyrighted only "if it features an original selection or arrangement of facts," and the copyright protection is "limited to the particular selection or arrangement."⁸⁰ Computerized databases, which can be searched by text strings or key words, rarely feature "original" organization. Under *Feist*, no matter how many resources were invested in creating a complex database, it would not be protected by copyright law. As a result, database creators today protect their investment through contracts and high user fees—disfavored by NII proponents' emphasis on open access.

Inability to resolve these issues threatens the success of the NII. Protecting intellectual property and responding to the challenges of digital technology are more than just moral or legal imperatives. Copyright is, according to the United States Supreme Court, "the engine of free expression. By establishing a marketplace right to the use of one's expression, copyright supplies the economic incentive to create and disseminate ideas."⁸¹ Failure to protect copyrights, patents, and trademarks will undermine the incentive to create. The *Agenda for Action* stressed that the Task Force should "[e]xamine the adequacy of copyright laws" and "explore ways to identify and reimburse copyright owners" through either alternative market structures or new technologies. These are important inquiries that the Administration should not ignore or defer.

Yet intellectual property issues have apparently slipped from senior Administration officials' fields of view. These issues receive nowhere near the same attention from the Vice President and Task Force leaders as, for example, universal service does. A Task Force working group is examining these issues; perhaps its preliminary draft report, *Intellectual Property and the National Information Infrastructure*,⁸² will generate more interest from the Administration, Congress, and the public. Certainly the communities that create and disseminate programming are concerned. But the lack of overt attention from senior officials, and the vague, shadowy impression that the Administration might eventually take some action in this area, combine to dissipate the pressure for action and the incentive for attention. The identification of intellectual property issues in the *Agenda for Action*, followed by their subsequent disappearance from high-level discussion, has created a wait-and-see atmosphere. The Copyright Office and the Intellectual Property Working Group toil on, but the NII leadership's attention is focused elsewhere. As a result, their efforts go largely unnoticed, except by concerned outsiders who are persuaded to wait.

The First Amendment

None of the Administration's NII pronouncements mention the First Amendment. It does not appear in the *Agenda for Action* or in a single speech by Vice President Gore, Secretary Brown, Assistant Secretary Irving, or any other senior Administration official. Free expression is not the subject of any NII committee or working group.

The omission of the First Amendment from information policy is all the more significant in light of the substantial regulatory role that the Administration anticipates the government should play. In his December 21, 1993, address at the National Press Club, the Vice President analogized the current information marketplace to the environment that, in his view, permitted the sinking of the *Titanic*:

Why did the ship that couldn't be sunk steam full speed into an ice field? For in the last few hours before the *Titanic* collided, other ships were sending messages like this one from the *Mesaba*: "Lat 42N to 41.25 Long 49W to Long 50.30W. Saw much heavy pack ice and great number large icebergs also field ice."

And why, when the *Titanic* operators sent distress signal after distress signal did so few ships respond? The answer is that—as the investigations proved—the wireless business then was just that, a business. Operators had no obligation to remain on duty. They were to do what was profitable. When the day's work was done—often the lucrative transmissions from wealthy passengers—operators shut off their sets and went to sleep . . .

Ironically, that tragedy resulted in the first efforts to regulate the airwaves.

Why did government get involved? Because there are certain public needs that outweigh private interests.⁸³

The Vice President's vision of the proper role of the government's information policy, to judge from the *Titanic* example, is to regulate the information infrastructure, to restrain those "private interests" that are outweighed by unspecified "public needs." It is no wonder that the First Amendment is not mentioned, because it would pose a clear obstacle to such regulation. The provision of information products and services is a profitable business. To lament that fact both undermines the government's reliance on private investment to deploy the NII⁸⁴ and raises important First Amendment issues.

The Supreme Court has found that the First Amendment's simple command—"Congress shall make no law . . .

abridging freedom of speech or of the press"⁸⁵—erects a very high barrier to government intrusion into communications. Under the First Amendment, governmental regulations based on the content of expression are generally subject to "strict scrutiny" by courts.⁸⁶ In the context of over-the-air broadcasting, however, the Court requires only that broadcasting regulation be "narrowly tailored" to achieve a "substantial government interest."⁸⁷ That lower standard is premised upon the physical scarcity of the electromagnetic spectrum, which permits the operation of only a finite number of broadcast stations and therefore, according to the Court, permits greater regulation of broadcast programming.⁸⁸

The developing information infrastructure has little to do with over-the-air broadcasting. Instead of scarce electromagnetic spectrum, the infrastructure utilizes the abundant capacity of fiber optics. As a result, proposed regulations dealing with the content of information provided via the NII would likely be subject to "strict scrutiny" by courts. This conclusion is supported by the Supreme Court's recent decision in *Turner Broadcasting Sys., Inc. v. FCC*.⁸⁹ In that case, eight Justices supported the proposition that "the rationale for applying a less rigorous standard of First Amendment scrutiny to broadcast regulation . . . does not apply in the context of cable regulation."⁹⁰ The abundant capacity of the cables that deliver television to the home is multiplied many times in the networks that form today's Internet and tomorrow's NII. But even if treated under the less restrictive test reserved for over-the-air broadcasting, such regulations would still have to meet the "substantial government interest" test. And that less restrictive test is under fire as the proliferation of media technologies undermines the scarcity justification for permitting some content-based regulation of broadcast programming.⁹¹

The First Amendment is vital to the NII because it reflects a constitutional commitment not only to free expression, but also to reaping the benefits of free expression without government interference. "[A] cardinal tenet of the First Amendment is that governmental intervention in the marketplace of ideas . . . is not acceptable and should not be tolerated."⁹² The First Amendment also serves as a positive barrier to impermissible restrictions on information. No matter how desirable such restrictions may be in the eyes of the Vice President, the Task Force, the Congress, or anybody else, the First Amendment forbids policies that abridge the freedom of speech.

Information policymaking that ignores the First Amendment wastes time and resources; it fundamentally disservices the public interest. The absence of the First Amendment from the policymaking debate calls into question the debate

itself. How serious is the commitment to the NII and to assuring access for everyone, if the policymaking process ignores the principles and limits of the First Amendment? One is reminded of the politically popular but constitutionally deficient actions of a unanimous U.S. Senate in banning indecent telephone calls⁹³ and flag-burning⁹⁴—the latter only three months after the Supreme Court had found that flag-burning was constitutionally protected⁹⁵—only to have both provisions struck down by the Supreme Court.⁹⁶ Such actions undermine policymakers' commitment and their wisdom. Given Congress' renewed interest in regulating the content of broadcast television, cable television, and video games,⁹⁷ the First Amendment fills a more crucial role than ever in information policymaking. Ithiel de Sola Pool wrote more than a decade ago about the ironic tendency of policymakers to seek to regulate new information technologies:

The easy access, low cost, and distributed intelligence of modern means of communication are a prime reason for hope. The democratic impulse to regulate evils, as Tocqueville warned, is ironically a reason for worry. Lack of technical grasp by policy makers and their propensity to solve problems of conflict, privacy, intellectual property, and monopoly by accustomed bureaucratic routines are the main reasons for concern. But as long as the First Amendment stands, backed by courts which take it seriously, the loss of liberty is not foreordained. The commitment of American culture to pluralism and individual rights is reason for optimism, as is the pliancy and profusion of electronic technology.⁹⁸

CONCLUSION

Information policymaking today is dominated by the number and diversity of issues and parties that it involves. These two features vastly complicate the task of information policymaking and also substantially increase the cost of delay or failure in achieving rational, effective information policies. The Clinton Administration deserves enormous credit for both recognizing the widespread importance of information and seeking to address explicitly the complexities of information policymaking. Yet the most tangible manifestations of the Administration's response in the policymaking arena reflect neither the ambition nor the comprehensiveness of the Administration's early moves to organize information policymaking.

Faced with a dazzling array of difficult issues and often conflicting principles, the Administration has chosen to concentrate its most visible energies on only three. This approach is skewing the policy debate about those areas of

inquiry, while restricting discussion of other important issues. A more comprehensive and balanced approach, incorporating the broad array of issues identified in the September 1993 *Agenda for Action* and critical First Amendment concerns, is necessary. Such an agenda, addressed by the wide range of policymakers with expertise in, and responsibility for, information policy, should be driving the information policymaking process.

NOTES

¹ Mark S. Nadel, *U.S. Communications Policymaking: Who & Where*, 13 HASTINGS COMM. & ENT. L.J. 273, 275 (1991).

² Stuart N. Brotman, *The Curious Case of the Must-Carry Rules: Breaking the Endless Policy Loop Through Negotiated Rulemaking*, 40 FED. COMM. L.J. 399, 405 (1988).

³ COUNCIL ON COMPETITIVENESS, COMPETITION POLICY: UNLOCKING THE NATIONAL INFORMATION INFRASTRUCTURE 3 (1993).

⁴ Fred H. Cate, *Communications Policymaking, Competition and the Public Interest: the New Dialogue*, 68 IND. L.J. 665, 669 (1993).

⁵ President Carter established the NTIA in 1978 to replace the White House Office of Telecommunications Policy as the principal advisor to the Administration on telecommunications issues.

⁶ HENRY GELLER, BENTON FOUNDATION, *THE FEDERAL STRUCTURE FOR TELECOMMUNICATIONS POLICY* 26 (1989).

⁷ INFORMATION INFRASTRUCTURE TASK FORCE, NATIONAL INFORMATION INFRASTRUCTURE AGENDA FOR ACTION 12 (1993).

⁸ Ronald H. Brown, Remarks Before the Networked Economy Conference (Oct. 20, 1993).

⁹ *The National Information Infrastructure, Frequently Asked Questions* (available through Internet from the NTIA NII bulletin board, iitf.doc.gov).

¹⁰ Ronald H. Brown, Remarks at the Museum of Television and Radio (Jan. 6, 1994); Al Gore, Remarks at the National Press Club (Dec. 21, 1993).

¹¹ *Id.*

¹² *Technology: Information Technologies Growth Seen Strengthening*, DAILY REP. FOR EXECS., Jan. 28, 1994, at 18, available in NEXIS, NEWS Library, DREXEC File. Specific predictions for the sector included: Computer software revenues would rise 12.8% to \$60 billion in 1993; information services revenues would increase 12.4% to \$136 billion; and electronic information services revenues, a subset of the information services market, would climb almost 15% to \$15.6 billion. Telecommunications services—local telephone, long distance, cellular, satellite,

and data services—were predicted to have 1993 revenues exceeding \$184 billion. Ivan H. Shefrin & Daniel W. Edwards, *Telecommunications Services; Industry Overview*, U.S. INDUS. OUTLOOK, Jan. 1993, at 28.

¹³ Anne W. Branscomb, *Global Governance of Global Networks: A Survey of Transborder Data Flow in Transition*, 36 VAND. L. REV. 985, 987 (1983).

¹⁴ Howard Gleckman, *The Technology Payoff*, BUS. WK., June 14, 1993, at 57.

¹⁵ Gore, *supra* note 10; AGENDA FOR ACTION, *Supra* note 7, at 5.

¹⁶ U.S. Congress, Office of Technology Assessment, U.S. BANKS AND INTERNATIONAL TELECOMMUNICATIONS—BACKGROUND PAPER 4 (1992).

¹⁷ Peter Marsh, *Financial Sector Wins 17% of Market*, FIN. TIMES, Aug. 25, 1992, at 7.

¹⁸ CHARLES GOLDFINGER, LA GÉOFINANCE 401 (1986).

¹⁹ See, e.g., Pete Engardio, *Global Banker*, BUS. WK., May 24, 1993, at 50 (describing an international bank's \$1 billion information technology budget).

²⁰ NATIONAL PERFORMANCE REVIEW, OFFICE OF THE VICE PRESIDENT, FROM RED TAPE TO RESULTS: CREATING A GOVERNMENT THAT WORKS BETTER AND COSTS LESS: RE-ENGINEERING THROUGH INFORMATION TECHNOLOGY 1 (1993).

²¹ *Id.* at 2.

²² Al Gore, *Communications: Networking for the Future*, WASH. POST, July 15, 1990, at B3.

²³ 135 CONG. REC. S16,681 (1989).

²⁴ 137 CONG. REC. S17,894 (1991).

²⁵ Bill Clinton, Remarks to the National Association of Radio Talk Show Hosts (June 21, 1992), *transcript available in NEXIS*, NEWS Library, CURNWS File. The Library of Congress plans to have the most important materials in its collection converted to digital format by the year 2000. Peter H. Lewis, *Library of Congress Offers to Feed the Data Highway*, N.Y. TIMES, Sept. 12, 1994, at B11.

²⁶ *Frequently Asked Questions*, *supra* note 9.

²⁷ *Information Infrastructure and H.R. 1757, The "High Performance Computing and High Speed Networking Applications Act of 1993": Hearings before the House Committee on Science, Space, and Technology*, 103d Cong., 1st Sess. (Apr. 27, 1993) (statement of John H. Gibbons, Director, Office of Science and Technology Policy).

²⁸ TECHNOLOGY FOR ECONOMIC GROWTH: A CHECKLIST OF CLINTON ADMINISTRATION KEY ACCOMPLISHMENTS (Nov. 4, 1993).

²⁹ AGENDA FOR ACTION, *supra* note 7, at 23.

³⁰ *Grant Program Quadrupled*, COMM. DAILY, Feb. 8, 1994, at 1.

³¹ OMB CIRCULAR A-130, JUNE 1993.

³² NATIONAL PERFORMANCE REVIEW, *supra* note 20, at 2.

³³ SEE, E.G., A UNIFIED FEDERAL GOVERNMENT ELECTRONIC MAIL USERS' SUPPORT ENVIRONMENT (MUSE), THE FINAL REPORT OF THE WORKING GROUP ON GOVERNMENT-WIDE ELECTRONIC MAIL, INTEGRATED SERVICES PANEL (Nov. 1993); REPORT OF WHITE HOUSE ELECTRONIC PUBLIC ACCESS (1994).

³⁴ *Public Advisory Council of Clinton Administration's Information Infrastructure Task Force . . .*, COMM. DAILY, Feb. 14, 1994, at 6.

³⁵ Randolph E. Schmid, *Funding Increases Make Technology a Big Winner*, S.F. EXAMINER, Feb. 8, 1994, at A-10.

³⁶ AGENDA FOR ACTION, *supra* note 7, at 6.

³⁷ *Id.* at 6-7 (original emphasis deleted).

³⁸ Gore, *supra* note 10.

³⁹ Brown, *supra* note 10.

⁴⁰ See, e.g., Al Gore, Remarks at UCLA (Jan. 11, 1994); *Telecommunications Improvements: Hearings Before the Senate Commerce Comm.*, 103d Cong., 2d Sess. (Feb. 23, 1994) (statement of Secretary of Commerce Ronald H. Brown); *Telecommunications Reform Legislation: Hearings Before the House Judiciary Comm., Subcomm. on Economic and Commercial Law*, 103d Cong., 2d Sess. (Jan. 26, 1994) (statement of Larry Irving, Assistant Secretary of Commerce for Communication and Information); *Telecommunications Reform Legislation: Hearings Before the House Energy and Commerce Comm., Subcomm. on Telecommunications and Finance*, 103d Cong., 2d Sess. (Jan. 27, 1994) (statement of Larry Irving, Assistant Secretary of Commerce for Communication and Information).

⁴¹ Kimberly Patch, *Government Sets NII Rules*, PC WEEK, Dec. 13, 1993, at 141. For an excellent summary of both government and nongovernmental players involved in communications policymaking, see Nadel, *supra* note 1.

⁴² SEE, E.G., U.S. DEP'T OF COMMERCE, NAT'L TELECOM. & INFO. ADMIN., GLOBALIZATION OF THE MASS MEDIA (1993); TELECOM 2000: CHARTING THE COURSE FOR A NEW CENTURY (1988).

⁴³ 47 U.S.C. § 151 (1992).

⁴⁴ *Id.* at § 1.

⁴⁵ See, e.g., the following General Accounting Office publications: INFORMATION DISSEMINATION: CASE STUDIES ON ELECTRONIC DISSEMINATION AT FOUR AGENCIES (1992); U.S. COMMUNICATIONS POLICY: ISSUES FOR THE 1990s (1991); GLOBAL FINANCIAL MARKETS: INTERNATIONAL COORDINATION CAN HELP ADDRESS AUTOMATION RISKS (1991); ELECTRONIC FUNDS TRANSFER: OVERSIGHT OF CRITICAL BANKING SYSTEMS SHOULD BE STRENGTHENED (1990); FINANCIAL MARKETS: OVERSIGHT OF AUTOMATION USED TO CLEAR AND SETTLE TRADES IS UNEVEN (1990); FINANCIAL MARKETS: TIGHTER COMPUTER SECURITY NEEDED (1990); PUBLIC ACCESS: TWO CASE STUDIES OF FEDERAL ELECTRONIC DISSEMINATION (1990); COMPUTER MATCHING: NEED FOR GUIDELINES ON DATA COLLECTION AND ANALYSIS (1990); ELECTRONIC FUNDS TRANSFER: INFORMATION ON THREE CRITICAL BANKING SYSTEMS (1989).

⁴⁶ *United States v. American Tel. & Tel. Co.*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.* *Maryland v. United States*, 460 U.S. 1001 (1983). The Modified Final Judgment (MFJ) entered a consent decree that broke up AT&T's monopoly over telephone service in the United States. The MFJ created seven Regional Holding Companies (RHCs) to provide local telephone service on a regulated, monopoly basis, and left AT&T free to compete in the long distance market. The MFJ, however, restricted AT&T and the RHCs from entering certain lines of business where the court believed AT&T could unfairly take advantage of its former monopoly powers or that the RHCs could unfairly take advantage of their new monopoly powers within their geographic markets.

⁴⁷ 19 U.S.C. § 2411 (1992).

⁴⁸ 19 U.S.C. §§ 3101 *et seq.* (1992).

⁴⁹ 50 U.S.C. App. §§ 2401 *et seq.* (1991).

⁵⁰ 22 U.S.C. §§ 2751 *et seq.* (1990).

⁵¹ See Ana Puga, *US to Slap EC With Trade Sanctions*, BOSTON GLOBE, Apr. 22, 1993, at 45; *Last-Minute Deal Cools Trade Dispute with EC*, CHICAGO TRIB., Apr. 22, 1993, at N1; Fred H. Cate, *Global Information Policymaking and Domestic Law*, 1 IND. J. GLOBAL LEG. STUD. 467 (1994).

⁵² See Leon Hadar, *Kantor Sets in Motion Trade Sanction Proceedings*, BUS. TIMES, Feb. 17, 1994, at 1.

⁵³ See, e.g., the following U.S. Congress, Office of Technology Assessment publications: U.S. TELECOMMUNICATIONS SERVICES IN EUROPEAN MARKETS (1993); FINDING A BALANCE: COMPUTER SOFTWARE, INTELLECTUAL PROPERTY AND THE CHALLENGE OF TECHNOLOGICAL CHANGE (1992); U.S. BANKS AND INTERNATIONAL TELECOMMUNICATIONS—BACKGROUND PAPER, SUPRA NOTE 16; ELECTRONIC BULLS AND BEARS: U.S. SECURITIES MARKETS AND INFORMATION TECHNOLOGY

(1990); TRADING AROUND THE CLOCK: GLOBAL SECURITIES MARKETS AND INFORMATION TECHNOLOGY—BACKGROUND PAPER (1990); DEFENDING SECRETS, SHARING DATA: NEW LOCKS AND KEYS FOR ELECTRONIC INFORMATION (1987); INTELLECTUAL PROPERTY RIGHTS IN AN AGE OF ELECTRONIC INFORMATION (1986); EFFECT OF INFORMATION TECHNOLOGY ON FINANCIAL SERVICES SYSTEMS (1984).

⁵⁴ 464 U.S. 417 (1984) (recording of commercial television broadcasts for later viewing fits within definition of "fair use").

⁵⁵ 499 U.S. 340, 350-51 (1991) (a compilation containing uncopyrightable facts can be copyrighted "if it features an original selection or arrangement of facts," but the copyright protection is "limited to the particular selection or arrangement. In no event may copyright extend to the facts themselves.").

⁵⁶ 17 U.S.C. § 107 (1992). A use of a copyrighted work that is a "fair use" does not require the copyright holder's permission.

⁵⁷ *United States v. American Tel. & Tel. Co.*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.* *Maryland v. United States*, 460 U.S. 1001 (1983).

⁵⁸ See, e.g., *United States v. Western Elec. Co.*, 767 F. Supp. 308 (D.D.C. 1991), *aff'd*, 993 F.2d 1572 (D.C. Cir. 1993), *cert. denied*, *Consumer Fed'n v. United States*, 114 S. Ct. 487, 126 L. Ed. 2d 438 (1993); *United States v. Western Elec. Co.*, 673 F. Supp. 525 (D.D.C. 1987), *aff'd in part and rev'd in part*, 900 F.2d 283 (D.C. Cir. 1990) (per curiam), *cert. denied*, *MCI Communications Corp. v. United States*, 498 U.S. 911 (1990).

⁵⁹ See, e.g., *id.*; *US West, Inc. v. United States*, 855 F. Supp. 1184 (D. W.D. Wash. 1994); *Chesapeake & Potomac Tel. Co. v. United States*, 830 F. Supp. 909 (E.D. Va. 1993), *appeal pending*, No. 932340 (4th Cir.); *Ameritech Corp. v. United States*, 1994 U.S. Dist. LEXIS 4920 (N.D. Ill. 1994); *Ameritech Corp. v. United States*, 93 CV 74617 (E.D. Mich. 1994); *NYNEX Corp. v. FCC*, 153 F.R.D. 1 (D. Me. 1994). See also Frank W. Lloyd & Peter Kimm, *The Cable/Telco Cross-Ownership Issue*, N.Y. L.J., Apr. 15, 1994, at 5; *Bell Atlantic Leads Charge to Remove Cable Cross-Ownership Ban*, TELCO BUS. REP., Jan. 17, 1994, at 1.

⁶⁰ Leslie Cauley, *Four Baby Bells Begin Battle to End Consent Decree, Promising Lower Rates*, WALL ST. J., July 7, 1994, at B5.

⁶¹ Antitrust Procedures and Penalties Act, ch. 1, 15 U.S.C. §§ 16(b)-(h) (Supp. 1990).

⁶² Nadel, *supra* note 1, at 289.

⁶³ *Telcom Showdown: Battle Lines Harden as Baby Bells Fight to Kill Restrictions*, WALL ST. J., July 22, 1994, at A1.

⁶⁴ See generally Mark D. Director, THE ANNENBERG WASHINGTON PROGRAM, RESTRUCTURING AND EXPANDING NATIONAL TELECOMMUNICATIONS MARKETS: A PRIMER ON COMPETITION, REGULATION AND DEVELOPMENT FOR EAST AND CENTRAL EUROPEAN REGULATORS (1992).

⁶⁵ See Nadel, *supra* note 1, at 289-93.

⁶⁶ Quoted in Stuart Brotman, *Communications: Need for One Policy*, INT'L BUS., Mar. 1993.

⁶⁷ *Telecom 2000*, *supra* note 42.

⁶⁸ See 47 U.S.C. § 201 (1992) (it is the "duty of every common carrier engaged in interstate or foreign communication by wire or radio to furnish such communication service upon reasonable request therefor" and "[a]ll charges, practices, classifications, and regulations for and in connection with such communication service, shall be just and reasonable . . .").

⁶⁹ *The National Information Infrastructure: Communications and Computing—Converging or Colliding*, The Annenberg Washington Program, Washington, D.C., Nov. 9, 1993 (statement of Robert W. Lucky, Vice President of Applied Research, Bellcore).

⁷⁰ *District of Columbia Has Had Largest Decrease in Telephone Penetration in Country Since Divestiture: FCC Reports on Telephone Service*, COMM. DAILY, Nov. 1, 1993, at 4.

⁷¹ *Lack of Access to Technology Feared*, CLEV. PLAIN DEALER, May 29, 1994, at 11.

⁷² *Id.*

⁷³ *Greenlining Coalition Formed; Pacific Telesis to Set Minority Groups' Telecommunications Deal*, COMM. DAILY, July 14, 1994, at 4.

⁷⁴ COMM. DAILY, *supra* note 70, at 4.

⁷⁵ COMMON CARRIER WK., Jan. 4, 1993, at 3 (between 1988 and 1991 telephone penetration rates in Wisconsin dropped from 98%—the nation's highest—to 95.8%, a drop of about 40,000 homes).

⁷⁶ Kenneth Gordon & John R. Haring, *The Effects of Higher Telephone Prices on Universal Service*, OFFICE OF PLANS & POLICY, FCC, WORKING PAPER NO. 10, 2 (Mar. 1984).

⁷⁷ Federal-State-Local Agenda Planning Conference, NTIA and The Annenberg Washington Program, Washington, D.C., Nov. 19, 1993 (statement of Larry Irving, Assistant Secretary of Commerce for Communications and Information and NTIA Administrator).

⁷⁸ AGENDA FOR ACTION, *supra* note 7, at 6.

⁷⁹ 499 U.S. 340 (1991).

⁸⁰ *Id.* at 350.

⁸¹ *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539 (1985).

⁸² WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE (Preliminary Draft) (1994).

⁸³ Gore, *supra* note 10.

⁸⁴ *Id.*

⁸⁵ U.S. CONST. amend. I.

⁸⁶ See, e.g., *Simon & Schuster, Inc. v. New York State Crime Victims Board*, 502 U.S. 105, 112 S. Ct. 501, 508 (1991) ("the Government's ability to impose content-based burdens on speech raises the specter that the Government may effectively drive certain ideas or viewpoints from the marketplace. The First Amendment presumptively places this sort of discrimination beyond the power of the Government. . . . [To justify a content-based regulation] "the State must show that its regulation is necessary to serve a compelling state interest and is narrowly drawn to achieve that end." (quoting *Arkansas Writers' Project, Inc. v. Ragland*, 481 U.S. 221, 231 (1987)) (citation omitted)); *Regan v. Time, Inc.*, 468 U.S. 641, 648-49 (1984) (plurality opinion) ("Regulations which permit the Government to discriminate on the basis of the content of the message cannot be tolerated under the First Amendment."); *Police Department of Chicago v. Mosley*, 408 U.S. 92, 95 (1972) ("[A]bove all else, the First Amendment means that government has no power to restrict expression because of its message, its ideas, its subject matter, or its content. . . . The essence of . . . forbidden censorship is content control."). See generally Susan H. Williams, *Content Discrimination and the First Amendment*, 139 U. PA. L. REV. 615 (1991).

⁸⁷ *FCC v. League of Women Voters of Calif.*, 468 U.S. 364, 380 (1984). The lower, "substantial government interest" standard is traditionally reserved for content-neutral regulation of the print media.

⁸⁸ See *National Broadcasting Co. v. United States*, 319 U.S. 190, 226-27 (1943); *Red Lion Broadcasting Co., Inc. v. FCC*, 395 U.S. 367 (1969).

⁸⁹ 1994 U.S. LEXIS 4831 (1994).

⁹⁰ *Id.* at *27.

⁹¹ See, e.g., *Telecommunications Research & Action Ctr. v. FCC*, 801 F.2d 501 (D.C. Cir. 1986), *petition for reh'g en banc denied*, 806 F.2d 1115 (D.C. Cir.) (per curiam), *cert. denied*, 482 U.S. 919 (1987); *Branch v. FCC*, 824 F.2d 37 (D.C. Cir.), *cert. denied*, 485 U.S. 959 (1988); *Meredith Corp. v. FCC*, 809 F.2d 863 (D.C. Cir. 1987); *In re*

Complaint of Syracuse Peace Council against Television Station WTVH Syracuse, New York, 2 FCC Rcd. 5043, 5048 (1987) (mem. opinion and order); Mark S. Fowler & Daniel L. Brenner, *A Marketplace Approach to Broadcast Regulation*, 60 TEX. L. REV. 207 (1982).

⁹² Syracuse Peace Council, 2 FCC Rcd. 5043, 5056, 63 Rad. Reg. 2d (P&F) 541, 583 (1987) (mem. opinion and order).

⁹³ Child Protection and Obscenity Enforcement Act of 1988 (amending 47 U.S.C. § 223(b) to prohibit obscene and indecent telephone calls).

⁹⁴ Flag Preservation Act of 1989 (criminalizing desecration of the U.S. flag).

⁹⁵ *Texas v. Johnson*, 491 U.S. 397 (1989) (striking down Texas flag-burning statute as unconstitutional).

⁹⁶ *Sable Communications of Cal., Inc. v. FCC*, 492 U.S. 115 (1989) (unanimous Court strikes down prohibition on indecent so-called "dial-a-porn" telephone calls); *United States v. Eichman*, 496 U.S. 310 (1990) (striking down Flag Preservation Act of 1989).

⁹⁷ See, e.g., S. 1811, 103d Cong., 2d Sess., 140 CONG. REC. S430 (1994); S. 1556, 103d Cong., 1st Sess., 139 CONG. REC. S13,833 (1993); S. 1383, 103d Cong., 1st Sess., 139 CONG. REC. S10,581 (1993); S. 973, 103d Cong., 1st Sess., 139 CONG. REC. S6017 (1993); S. 943, 103d Cong., 1st Sess., 139 CONG. REC. S5814 (1993); S. Res. 122, 103d Cong., 1st Sess., 139 CONG. REC. S7495 (1993); H.R. 2888, 103d Cong., 1st Sess., 139 CONG. REC. H6292 (1993); H.R. 2837, 103d Cong., 1st Sess., 139 CONG. REC. H5739 (1993); H.R. 2756, 103d Cong., 1st Sess., 139 CONG. REC. H5360 (1993); H.R. 2609, 103d Cong., 1st Sess., 139 CONG. REC. H4506 (1993); H.R. 2159, 103d Cong., 1st Sess., 139 CONG. REC. H2596 (1993).

⁹⁸ ITHIEL DE SOLA POOL, *TECHNOLOGIES OF FREEDOM* 251 (1983).

